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REMARKS

The amendments herein do not introduce any new matter. Claims 1-37 remain pending in the application.

A petition for extension of time for one month and the corresponding fee is enclosed along with this response. It is not believed that any additional fees are due.

It is believed that the claims herein should be allowable to Applicants. Accordingly, allowance is respectfully requested.

I. Claim Rejections – 35 U.S.C. §102

The Examiner has rejected claims 1-5 and 7-13 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,731,859 to Kulkarni ("Kulkarni").

The Examiner states that Kulkarni discloses in Figs. 2 and 3 a cholesteric liquid crystal polarizing device comprising: a substrate or glass, an alignment layer or polyimide, and a cholesteric liquid crystal layer including multiple domains skewed at distribution angles and including a plurality of sub-domains, said sub-domains being disposed within a distribution of angles relative to said at least one domain and, each of said domains skewed at an angle relative to a plane parallel to said substrate or skewed at a substantially uniform angle.

Applicants have amended independent claim 1 to more particularly point out and distinctly claim the subject matter regarded as the invention. Claim 1 has been amended to recite that the cholesteric liquid crystal includes multiple domains, each of said domains skewed at a random angle relative to a plane parallel to the substrate. The present invention, as recited in amended independent claim 1, is directed to a cholesteric

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liquid crystal polarizing device for use in a reflective liquid crystal display device comprising a substrate, an alignment layer and a cholesteric liquid crystal layer including multiple domains where each of the domains is skewed at a random angle relative to a plane parallel to the substrate.

In contrast, Kulkarni is directed to a cholesteric liquid crystal device and a method for its manufacture. Kulkarni teaches a single substrate CLC device useful in displays where CLC material is placed between grooved layers on a substrate. Importantly, Kulkarni does not teach or suggest that the multiple domains ("microgrooves" in Kulkarni terminology) are skewed at a random angle relative to a plane parallel to the substrate. In column 4 lines 10-33 of Kulkarni, there is a description of laying the CLC layer over the microgrooves. There is no teaching or suggestion in the relative passage which describes a random distribution of skewed angles relative to the substrate.

Therefore, for the foregoing reasons, the present invention, as recited in amended independent claim 1, is not anticipated by Kulkarni. Claims 2-5 and 7-13, by their dependency on claim 1, is similarly not anticipated by Kulkarni.

II. Claim Rejections – 35 U.S.C. §103

The Examiner has rejected claims 6-37 under 35 U.S.C. §103(a) as being unpatentable over various combinations of Kulkarni in view of U.S. Patent No. 5,796,454 to Ma ("Ma"), U.S. Patent No. 5,325,218 to Willet et al. ("Willet"), U.S. Patent No. 5,796,447 to Okumura et al. ("Okumura"), and U.S. Patent No. 5,737,044 to Van Haaren et al. ("Van Haaren").

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As to claims 6 and 14, the Examiner states that Kulkarni discloses the device structure as disclosed in the claims but does not specifically disclose the pixel regions. However, the Examiner states that Ma discloses a CLC LCD comprising a monochromatic device wherein the pixel regions are arranged in repeating arrays. The Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kulkarni and Ma since the combination would increase the contrast ratio of the LCD as taught by Ma. Similarly, the Examiner has rejected claims 15-18 and 25-27 as being unpatentable over Willet in view of Kulkarni. Additionally, the Examiner has rejected claims 19-23, 28 and 29 as being unpatentable over Willet in view of Kulkarni and further in view of Ma. The Examiner has additionally rejected claim 24 as being unpatentable over Willet in view of Kulkarni and further in view of Okumura. The Examiner has additionally rejected claims 30, 31 and 33 as being unpatentable over Willet in view of Kulkarni in further view of Ma. The Examiner has also rejected claim 32 under 35 U.S.C. §103(a) as being unpatentable over Willet in view of Kulkarni and Ma and further in view of Okumura. The Examiner has rejected claims 34-37 under 35 U.S.C. §103(a) as being unpatentable over Willet in view of Kulkarni and Ma and further in view of Van Haaren.

Applicants have amended independent claims 1, 15 and 30 to more particularly point out and distinctly claim the subject matter of the invention. Claims 1, 15 and 30 have been amended to recite that the multiple domains of the cholesteric layer are skewed at a random angle relative to a plane parallel to the substrate. The present invention, as recited in the claims, is directed to a cholesteric liquid crystal polarizing device which is used as a reflective display. The cholesteric liquid crystal polarizing device of the

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invention includes a substrate, an alignment layer and a cholesteric liquid crystal layer which includes multiple domains wherein the domains are skewed at a random angle relative to a plane parallel to said substrate. That is, the angle of the domains are not predetermined in some orderly fashion. In order to provide a reflective display, random skewed angles provide a better reflective display.

None of the cited references teach or suggest random skewed angles for each of the domains of the cholesteric liquid crystal layer as recited in the claims. Additionally, none of the references, in combination, teach or suggest random skewed angles for each of the domains of the cholesteric liquid crystal layer.

The Examiner is reminded that to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references) must teach or suggest all of the claim limitations. In re Vaeck, 947 F.2d 488 (Fed. Cir. 1991).


Since the cited references do not teach or suggest all of the claim limitations, either alone or in combination with each other, a prima facie case of obviousness has not been set forth. Applicants, therefore, respectfully submit that amended claims 1, 15 and 30 are allowable over the cited references. Claims 6-14, 16-29 and 31-37, by their dependency on amended claims 1, 15 and 30, are similarly allowable.

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III. Conclusion

For the foregoing reasons, Applicants respectfully submit that claims 1-37 are now in condition for allowance. Early notice to that effect is earnestly solicited.

Respectfully submitted,

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